

Appl. No. 10/802,291
Amdt. dated November 8, 2004
Reply to Office action dated August 11, 2004

Amendments to the Drawings:

The attached sheets of drawings include changes to Fig. 1 and Fig. 7. The first sheet, which includes Fig. 1A and Fig. 1B, replaces the original sheet including two views of Fig. 1. The two views of Fig. 1 have been re-numbered as Fig 1A and Fig. 1B. The second sheet, which includes Fig. 7A and Fig. 7B, replaces the original sheet including two views of Fig. 7. The two views of Fig. 7 have been re-numbered as Fig. 7A and Fig. 7B. Also, reference character 10 now refers to each of Figs. 1A, 1B, 7A, and 7B individually, rather than being shared between multiple views.

Attachment: Replacement sheets
Annotated sheets showing changes

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REMARKS/ARGUMENTS

Specification and Abstract

In the specification, sentences on pages 2, 6, 7, 8, 9, 13, 14, and 15, as well as in the abstract of the disclosure, have been amended to correct minor editorial problems or informalities identified by the examiner.

Drawings

In amended Figs. 1A, 1B, 7A, and 7B, the previous multiple views of Fig. 1 and Fig. 7 have been re-numbered to identify the multiple views correctly. Also, reference character 10 now refers to each of Figs. 1A, 1B, 7A, and 7B individually, rather than being shared between multiple views.

Claim Rejections – 35 USC § 112:

Claims 1 and 8 (now claims 15 and 25) have been wholly re-written to refer consistently to concentrator wings, and thus avoid the concerns of the examiner with original claims 1-14.

Claim Rejections – 35 USC § 102

Generally, claims 1 and 8 (now claims 15 and 25) have been wholly re-written to refer to concentrator wings, i.e. those that allow an additional flow of wind between the concentrator wings, and thereby distinguish references disclosing a single wing, which is typical of the cited references. A venturi device has a single concentrator wing and cannot allow an additional flow of wind between the concentrator wings. This will avoid the concern the examiner has with original claims 1 - 14 with respect to prior art that cites devices having a single venturi or concentrator wing.

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Claims 1 (now 15) and 8 (now 25), are deemed to be anticipated by de Geus 4,204,799 under 35 U.S.C. 102(b). Applicant respectfully traverses this rejection. In this prior art citation, rotor 22 "actuates generator 21", page 2, line 58 of de Geus and does not serve as a flow regulator as claimed. Rather rotor 22 is actually a part of the impellor.

It is important here to refer to the Disclosure of the present application to clearly understand the inherent problem that designers of multiple shrouded turbines are experiencing and the purpose and function of the flow regulator 18 in relation to this problem. In the Background of the Invention of the present application page 6, lines 15 – 26, this explanation is provided, "The powerful stream of air that is drawn by suction through the smallest diameter shrouds forces directly downstream and interferes with the flow of wind over and between the concentrator wings that are attempting to flow the wind outwards, away from the central axis. These are contrary forces, and in higher wind conditions, as the article indicates, the stronger force wins with the resultant formation of a large turbulent vortex, the aerodynamic stalling of the concentrator wings, and the loss of power. The phenomenon is analogous to a blow torch that blows itself out when too much gas pressure is applied. It is therefore a significant object of the present invention to introduce a flow regulator element installed in the downstream flow of air that is drawn through the turbine or smallest diameter shrouds so as to stabilize either the force of air flowing out of the turbine or smallest diameter shrouds or flowing through the impellor blades of the device." The interaction of the flow of wind around the impellor and the interference of this flow with the wind flowing between concentrator wings 12 and resulting turbulence and stalling is further described in the Detailed Description of the present application, page 10, lines 21 – 25. This phenomenon and the reduction of this phenomenon by flow regulator 18 is further understood by reference to Fig's 4 and 6 of the present application.

Nothing in de Geus discloses or suggests "a flow regulator positioned downstream of the impellor, the flow regulator having wind deflecting aerodynamic surfaces that are contoured to enhance laminar flow of the air flow between the concentrator wings" as provided by Claims 15

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and 25. There is no mention in de Geus of directing a flow of wind outwards from de Geus' rotor 22 or any other method or component positioned directly downwind of an impellor that serves to enhance laminar air flow between the concentrator wings as does the claimed flow regulator.

Claims 1 and 8 are deemed to be anticipated by Finney 5,464,320 (figure 3) under 35 U.S.C. 102(b). Applicant respectfully traverses this rejection. The examiner cited Finney's 901 as a flow regulator, but this is simply a part of a concentrator wing. The concentrator wings themselves cannot be considered equivalent to flow regulator as they do not serve to reduce stalling of other concentrator wings and are not positioned directly downwind of an impellor.

Claims 1 (15) and 8 (25) are deemed anticipated by Uzzell, Jr. 3,883,750 under 35 U.S.C. 102(b). Applicant respectfully traverses this rejection. Uzzell does not disclose concentrator wings, nor a flow regulator downstream of an impellor.

Claims 1, 5, 8, and 18, as deemed anticipated by Cohen 4,079,264 (figure 5) under U.S.C. 102(b). Applicant respectfully traverses this rejection. Cohen does not disclose concentrator wings, nor a flow regulator downstream of an impellor. Cohen discloses a device that includes a single "power producing unit or an array of such units" as stated in the Abstract of Cohen. Each of these power producing units are venturi type devices that do not include "concentrator wings" as amended by amended independent Claims 15 and 25 of the present application. As such, the purpose of element 14 that defines "fluid flow channel 15", page 4, line 17 of Cohen, is for "increasing the rapidity of flow removal from the unit", page 4, line 23, 24 and does not serve the function as described for flow regulator 18 of the present invention namely to "enhance laminar flow of the air flow between the concentrator wings". Element 14 of Cohen cannot therefore be considered equivalent to a flow regulator as claimed.

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Claims 1, 5, 8 and 12, as deemed anticipated by Crompton 3,339,078 under 35 U.S.C.

102(b). Applicant respectfully traverses this rejection. Crompton fails to disclose concentrator wings or a flow regulator as claimed. Like Cohen, Crompton provides an example of a venturi type device and not a multiple shrouded device that comprises "concentrator wings". As well, conical center 35, page 2, line 32 of Crompton, is positioned in the diffuser or exit portion 32 of Crompton to "make it streamlined" page 2, line 31, 32, and cannot possibly serve to "enhance laminar flow of the air flow between the concentrator wings" Conical center 35 of Crompton cannot therefore be considered equivalent to a flow regulator as claimed.

Claim Rejections – 35 USC § 103

Claims 6, 7, 13 and 14 are rejected under 35 U.S.C. 103(a) as unpatentable over references cited under anticipation in view of United Kingdom Patent 695,519. Applicant respectfully traverses this rejection. As indicated above in relation to claims 15 and 25, the references cited as anticipatory are irrelevant, and UK 695,519 neither discloses nor suggests the claimed flow regulator, impellor and concentrator wings, and thus cannot render the dependent claims obvious.

Summary

Applicants thank the examiner for the indication of allowability of claims 2-4 and 9-11 if they were re-written, but, having reviewed in considerable detail the references cited by the examiner, have come to the conclusion that the remaining claims are also allowable.

Accordingly, reconsideration and withdrawal of the rejections, and allowance of the claims, is respectfully requested.

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Respectfully submitted, and certified as being faxed to the USPTO on
November 9/04 ²²⁰pages plus 4 drawing sheets

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